

IBEW Apprenticeship 2nd Year, 1st Period (2-1) Practice Test (Sample)

Study Guide



Everything you need from our exam experts!

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SAMPLE

Questions

- 1. What is the connection between absenteeism and employees according to survey findings?**
 - A. An employee's perception of job satisfaction**
 - B. An employee's perception of management**
 - C. An employee's perception of physical working conditions**
 - D. An employee's perception of their peers**
- 2. Is it true that one cycle of alternating current starts at zero and returns to zero after moving in both directions?**
 - A. True**
 - B. False**
 - C. Only in specific cases**
 - D. Depends on the waveform**
- 3. When must an application for an absentee ballot be made?**
 - A. Three days prior to the election**
 - B. Five days prior to the election**
 - C. One day prior to the election**
 - D. Two days prior to the election**
- 4. To whom should employees report upon entering an attended substation?**
 - A. Foreman**
 - B. Employee in charge**
 - C. Safety officer**
 - D. Control operator**
- 5. When working with electricity, what is critical for the safety of employees?**
 - A. Wearing heavy-duty gloves**
 - B. Keeping tools organized**
 - C. Using the correct lockout/tagout procedures**
 - D. Adhering to manufacturer guidelines**

- 6. What is required to be on the surface while work is conducted in a manhole with energized electric equipment?**
- A. An employee with first aid and CPR training**
 - B. A supervisor with a toolbox**
 - C. An extra pair of gloves**
 - D. A fire extinguisher**
- 7. What is the shape of the instantaneous current drawn by a resistive AC load?**
- A. Rectangular shape**
 - B. Triangular shape**
 - C. Elliptical shape**
 - D. Sine wave shape**
- 8. Which of the following is NOT part of the evacuation protocol during a chemical spill?**
- A. Evacuating personnel immediately**
 - B. Calling local Hazmat authorities**
 - C. Shutting down nearby machinery**
 - D. Identifying the chemical involved**
- 9. What action is essential when dealing with cable sheaths in underground installations?**
- A. Labeling every sheath**
 - B. Testing for voltage**
 - C. Maintaining continuity**
 - D. Color coding**
- 10. What is required for a local union to maintain its charter?**
- A. Hold a meeting at least once a month**
 - B. Pay all dues on time**
 - C. Submit annual reports**
 - D. Have a membership of at least 50**

Answers

SAMPLE

1. C
2. A
3. B
4. B
5. C
6. A
7. D
8. B
9. C
10. A

SAMPLE

Explanations

1. What is the connection between absenteeism and employees according to survey findings?

- A. An employee's perception of job satisfaction**
- B. An employee's perception of management**
- C. An employee's perception of physical working conditions**
- D. An employee's perception of their peers**

Absenteeism in the workplace is often influenced by an employee's perception of physical working conditions. If employees feel that their physical environment is uncomfortable, unsafe, or otherwise lacking, they may be more likely to miss work due to dissatisfaction or health concerns. Poor working conditions can lead to physical issues, such as injuries or illnesses, which can increase the rates of absenteeism. While perceptions of job satisfaction, management, and peers can all play important roles in employee attendance, the direct link to physical working conditions highlights how the immediate environment can significantly impact an employee's decision to come to work. Better physical conditions, like adequate lighting, temperature control, and ergonomic workspaces, can lead to improved employee health and morale, thereby reducing absenteeism. In this context, option C directly addresses a critical factor that can lead to increased absenteeism if not addressed properly.

2. Is it true that one cycle of alternating current starts at zero and returns to zero after moving in both directions?

- A. True**
- B. False**
- C. Only in specific cases**
- D. Depends on the waveform**

The statement is true because one cycle of alternating current (AC) is defined as the complete movement of the current through its full range, starting from zero, increasing to a maximum positive value, decreasing back to zero, continuing to a maximum negative value, and then returning again to zero. This pattern demonstrates the bidirectional flow of current characteristic of AC. Understanding this concept is crucial in electrical work, as it underpins how many electrical systems and devices operate. In a standard sine wave, which is a common waveform for AC, this cycle can be observed clearly, making it essential for apprentices to grasp the foundational behavior of AC currents. Knowing that a cycle includes both the positive and negative directions reinforces the understanding of power supply design and the functioning of various electrical equipment. While specific cases or waveforms may present variations in the shape and characteristics of AC, the fundamental concept of a cycle starting and returning to zero remains consistent. Therefore, the straightforward affirmation regarding the nature of an AC cycle is correctly identified.

3. When must an application for an absentee ballot be made?

- A. Three days prior to the election
- B. Five days prior to the election**
- C. One day prior to the election
- D. Two days prior to the election

An application for an absentee ballot must typically be made five days prior to the election to ensure that there is enough time for processing and mailing. This timeframe allows election officials to verify the application and provide the absentee ballot in time for the voter to complete and return it by the election deadline. Adhering to this timeline is crucial as it avoids potential delays that could disenfranchise voters who wish to participate remotely. While some jurisdictions might have different rules, the five-day requirement is commonly found in many voting regulations to promote efficient and orderly electoral processes. Understanding this timeframe is essential for voters to ensure they are able to cast their ballots even when unable to be physically present at polling places on election day.

4. To whom should employees report upon entering an attended substation?

- A. Foreman
- B. Employee in charge**
- C. Safety officer
- D. Control operator

Reporting to the employee in charge upon entering an attended substation is essential for maintaining safety and effective communication within the facility. The employee in charge is typically responsible for overseeing operations, ensuring that protocols are followed, and managing any potential hazards. This individual can provide specific instructions about the substation's current conditions, alert personnel to any ongoing work, and coordinate activities to maintain a safe working environment. Additionally, the employee in charge is well-versed in the operational procedures and emergency protocols of the substation, making them the ideal point of contact for any questions or concerns upon arrival. This chain of command fosters accountability and helps ensure that all safety measures are adhered to, crucial in high-risk environments like substations.

5. When working with electricity, what is critical for the safety of employees?

- A. Wearing heavy-duty gloves**
- B. Keeping tools organized**
- C. Using the correct lockout/tagout procedures**
- D. Adhering to manufacturer guidelines**

Using the correct lockout/tagout procedures is essential for ensuring the safety of employees working with electricity. These procedures are designed to protect workers from the accidental energization of electrical equipment during maintenance or servicing. By properly locking out and tagging equipment, workers can ensure that it cannot be inadvertently turned on while they are performing tasks, preventing potential electrical shocks or injuries. Lockout/tagout procedures involve a systematic approach, including shutting down machinery, isolating energy sources, and effectively communicating these actions to all personnel involved. This process significantly mitigates the risk of electrical hazards, making it a critical component of workplace safety in environments where electricity is present. While other practices, such as wearing appropriate protective gear or adhering to manufacturer guidelines, contribute to overall safety, lockout/tagout procedures specifically address the critical need for isolating energy sources to protect workers during maintenance activities.

6. What is required to be on the surface while work is conducted in a manhole with energized electric equipment?

- A. An employee with first aid and CPR training**
- B. A supervisor with a toolbox**
- C. An extra pair of gloves**
- D. A fire extinguisher**

Having an employee with first aid and CPR training present while work is conducted in a manhole with energized electric equipment is crucial for safety. In scenarios where electrical work is being performed, there are inherent risks involved, including the possibility of electrical shock, burns, or other medical emergencies. The presence of a trained first responder ensures that immediate medical assistance can be provided if an emergency occurs, potentially saving lives and minimizing injuries. It's important to recognize that the other options, though valuable in certain contexts, do not address the critical need for immediate medical readiness in these potentially hazardous situations. A supervisor with a toolbox may be responsible for oversight and tools but does not cover the immediate health and safety aspect. An extra pair of gloves could help protect against electrical hazards but wouldn't assist in an emergency response. Similarly, while a fire extinguisher is an essential safety device, it does not provide the medical preparedness required in situations involving energized equipment. Thus, the presence of an employee trained in first aid and CPR is the most appropriate and necessary choice for safety in this environment.

7. What is the shape of the instantaneous current drawn by a resistive AC load?

- A. Rectangular shape**
- B. Triangular shape**
- C. Elliptical shape**
- D. Sine wave shape**

The instantaneous current drawn by a resistive AC load is represented by a sine wave shape. This is due to the nature of AC (alternating current) itself, which typically varies sinusoidally over time. The voltage and current in a purely resistive circuit are in phase, meaning that as the voltage oscillates through its positive and negative cycles in a sine wave pattern, the current does the same. In a resistive load, the relationship between voltage (V) and current (I) is governed by Ohm's Law, where $V = I * R$. Since both voltage and current follow the same sinusoidal function, the current drawn from the AC supply mimics the shape of the voltage waveform, which is a sine wave. Therefore, the correct representation of the instantaneous current in a resistive circuit is indeed a sine wave shape, corresponding to the periodic oscillations that characterize AC electrical systems.

8. Which of the following is NOT part of the evacuation protocol during a chemical spill?

- A. Evacuating personnel immediately**
- B. Calling local Hazmat authorities**
- C. Shutting down nearby machinery**
- D. Identifying the chemical involved**

The choice that is not part of the evacuation protocol during a chemical spill is the act of calling local Hazmat authorities. While notifying Hazmat is an important step in managing a chemical spill, it typically occurs after the immediate danger to personnel has been addressed. Evacuation protocols prioritize the safety of individuals on-site, requiring the rapid evacuation of personnel to secure locations away from potential harm. The other options listed are essential components of the immediate response during a chemical spill. Evacuating personnel immediately ensures that individuals are moved to safety, reducing the risk of exposure to hazardous materials. Shutting down nearby machinery minimizes the risk of ignition or further exacerbation of the spill situation, which is crucial for maintaining a controlled environment while dealing with the spill. Identifying the chemical involved is also important because it informs responders of the specific hazards they may face, allowing them to take appropriate action and use proper safety equipment. In summary, while notifying Hazmat authorities is necessary for effective response management, it generally follows the critical evacuation and immediate safety procedures that are the focus during a chemical spill incident.

9. What action is essential when dealing with cable sheaths in underground installations?

- A. Labeling every sheath**
- B. Testing for voltage**
- C. Maintaining continuity**
- D. Color coding**

Maintaining continuity with cable sheaths in underground installations is crucial because the primary function of the sheath is to protect the inner conductors from physical damage and environmental factors, such as moisture and chemical exposure. A continuous sheath ensures that there are no breaks or faults that could lead to moisture ingress, which can cause insulation degradation and potential short circuits. In addition, a continuous cable sheath supports the overall integrity of the electrical system, helping to prevent outages and maintaining safety. If the sheath is compromised, there could be significant risks associated with the electrical installation, including potential hazards for personnel and equipment. While labeling, testing for voltage, and color coding are important practices in the installation process, they do not specifically address the protective role of the sheath or ensure its integrity. Maintaining continuity directly impacts the safety and functionality of the electrical system in underground installations, making it an essential action.

10. What is required for a local union to maintain its charter?

- A. Hold a meeting at least once a month**
- B. Pay all dues on time**
- C. Submit annual reports**
- D. Have a membership of at least 50**

The requirement for a local union to maintain its charter revolves around multiple obligations, but one of the foundational elements is the necessity to hold meetings regularly. Conducting meetings, particularly at least once a month, helps ensure that union members are actively engaged in discussions regarding labor issues, negotiations, and organizational governance. Regular meetings serve to strengthen communication amongst the members and leadership, fostering solidarity and informed participation in union activities. This aspect is critical for maintaining the charter as it reflects the active engagement and involvement of the union's membership. While other factors like timely payment of dues, submission of annual reports, and having a minimum membership can influence a union's operation and stability, the practice of holding regular meetings fundamentally supports the structure and functioning of the union, thereby aiding in charter maintenance.